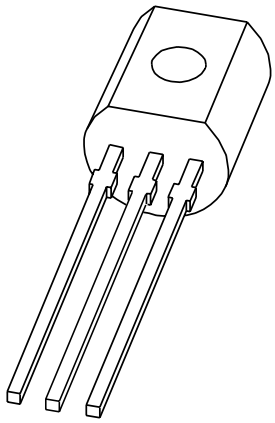
DATA SHEET



BF324
PNP medium frequency transistor

Product specification
Supersedes data of 1997 Jul 07

2004 Nov 05

Philips
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PNP medium frequency transistor BF324

FEATURES

- Low current (max. 25 mA)
- Low voltage (max. 30 V).

APPLICATIONS

- RF stages in FM front-ends in common base configuration.

DESCRIPTION

PNP medium frequency transistor in a TO-92; SOT54 plastic package.

PINNING

PIN	DESCRIPTION
1	emitter
2	base
3	collector

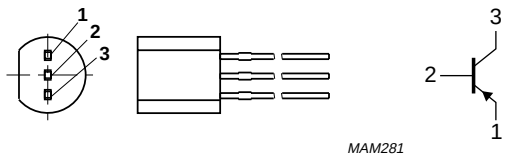


Fig.1 Simplified outline (TO-92; SOT54) and symbol.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter	–	–	–30	V
V_{CEO}	collector-emitter voltage	open base	–	–	–30	V
I_{CM}	peak collector current		–	–	–25	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °C	–	–	300	mW
h_{FE}	DC current gain	$V_{CE} = -10$ V; $I_C = -4$ mA	25	–	–	
f_T	transition frequency	$V_{CE} = -10$ V; $I_C = -4$ mA; f = 100 MHz	–	450	–	MHz

ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BF324	SC-43A	plastic single-ended leaded (through hole) package; 3 leads	SOT54

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter	–	–30	V
V_{CEO}	collector-emitter voltage	open base	–	–30	V
V_{EBO}	emitter-base voltage	open collector	–	–4	V
I_C	collector current (DC)		–	–25	mA
I_{CM}	peak collector current		–	–25	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °C; note 1	–	300	mW
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	ambient temperature		–65	+150	°C

Note

1. Transistor mounted on an FR4 printed-circuit board.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th(j-a)}$	thermal resistance from junction to ambient	note 1	420	K/W

Note

1. Transistor mounted on an FR4 printed-circuit board.

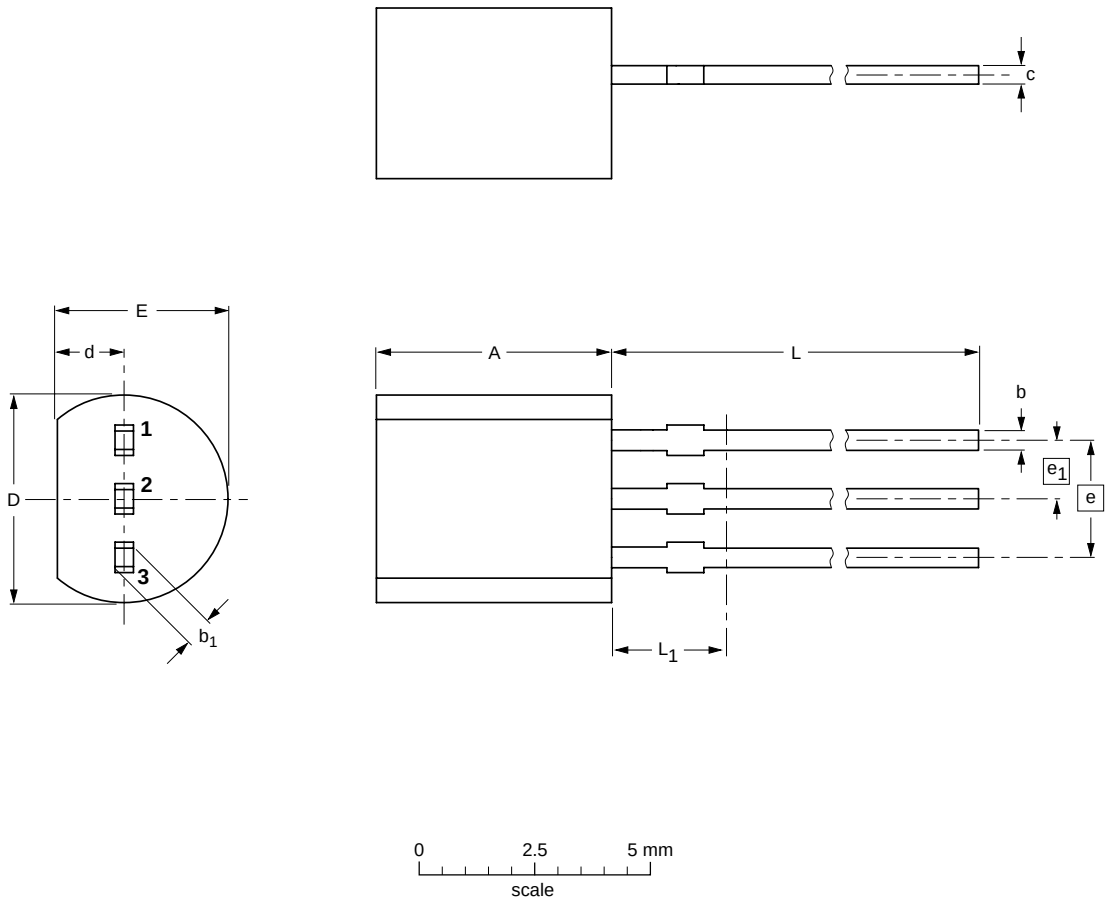
CHARACTERISTICS

T_{amb} = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_{CBO}	collector-base cut-off current	V_{CB} = –30 V; I_E = 0 A	–	–	–50	nA
I_{EBO}	emitter-base cut-off current	V_{EB} = –4 V; I_C = 0 A	–	–	–100	nA
h_{FE}	DC current gain	V_{CE} = –10 V				
		I_C = –1 mA	–	45	–	
		I_C = –4 mA	25	–	–	
V_{BE}	base-emitter voltage	V_{CE} = –10 V; I_C = –4 mA	–	760	–	mV
C_{rb}	feedback capacitance	V_{CE} = –10 V; I_C = 0 A; f = 1 MHz	–	–	0.3	pF
f_T	transition frequency	V_{CE} = –10 V; f = 100 MHz				
		I_C = –1 mA	–	350	–	MHz
		I_C = –4 mA	400	450	–	MHz
		I_C = –8 mA	–	440	–	MHz

PACKAGE OUTLINE

Plastic single-ended leaded (through hole) package; 3 leads **SOT54**



DIMENSIONS (mm are the original dimensions)

UNIT	A	b	b_1	c	D	d	E	e	e_1	L	L_1 (1) max.
mm	5.2 5.0	0.48 0.40	0.66 0.55	0.45 0.38	4.8 4.4	1.7 1.4	4.2 3.6	2.54	1.27	14.5 12.7	2.5

Note

1. Terminal dimensions within this zone are uncontrolled to allow for flow of plastic and terminal irregularities.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOT54		TO-92	SC-43A			~~97-02-28~~ 04-06-28

DATA SHEET STATUS

LEVEL	DATA SHEET STATUS(1)	PRODUCT STATUS(2)(3)	DEFINITION
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